

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 17

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte NADINE E. MINER
and
THOMAS P. CAUDELL

Appeal No. 2002-0810
Application 09/014,871

ON BRIEF

Before HAIRSTON, DIXON, and LEVY, Administrative Patent Judges.
HAIRSTON, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 1 through 3, 6, 8 through 13, 16, 17, 19, 20, 22 through 24 and 27 through 34.

The disclosed invention relates to a method for generating a synthesized sound.

Claim 1 is illustrative of the claimed invention, and it reads as follows:

Claim 1. A method for generating a synthesized sound, comprising:

a) obtaining a wavelet representation of a first sound according to:

i) determining a characteristic shape of the first sound by inspecting the first sound at each of a plurality of scales;

ii) comparing the characteristic shape with each of a plurality of wavelet types;

iii) selecting the wavelet type from the plurality of wavelet types that most closely matches the characteristic shape;

iv) obtaining a wavelet representation of the first sound using a wavelet transform of the first sound based on the selected wavelet type;

b) obtaining a plurality of parameters which characterize the wavelet representation; and

c) generating the synthesized sound by varying at least some of the plurality of parameters.

The references relied on by the examiner are:

Faria et al. (Faria), "Wavelets in music analysis and synthesis: timbres analysis and perspectives," Proceedings of the SPIE-International Society for Optical Engineering, Vol. 2825, Part 2, pages 950-961, Denver, Colorado, Aug. 6-9, 1996.

Evangelista, "Pitch-synchronous wavelet representations of speech and music signals," IEEE Transactions on Signal Processing, Vol. 41, pages 3313-3330, Dec. 1993.

Kudumakis et al. (Kudumakis), "Synthesis of Audio Signals Using the Wavelet Transform," IEEE, pages 1 through 5, 1993.

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Claims 1 through 3, 8 through 13, 17, 19, 20, 27 and 29 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Faria.

Claims 6, 16, 28 and 30 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Faria in view of Kudumakis.

Claims 22 through 24, 31 and 33 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Faria in view of Evangelista.

Claims 32 and 34 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Faria in view of Kudumakis and Evangelista.

Reference is made to the brief (paper number 15) and the answer (paper number 16) for the respective positions of the appellants and the examiner.

OPINION

We have carefully considered the entire record before us, and we will reverse the obviousness rejection of claims 1 through 3, 6, 8 through 13, 16, 17, 19, 20, 22 through 24 and 27 through 34.

Appellants argue (brief, page 7) that the examiner has not established a prima facie case of obviousness of claims 1 and 12 because "there is no teaching in *Faria* of determination of a

characteristic shape of a sound, comparing the characteristic shape with wavelet types, and selecting a wavelet type based on the match with the characteristic shape." With respect to claims 1 and 17, appellants argue (brief, page 8) that these claims "are expressly limited to steps for varying or manipulating the coefficients or parameters which characterize a wavelet representation in order to generate a synthesized sound," and that "*Faria* does not teach or suggest such modification."

We agree with appellants' arguments. As the title of the *Faria* publication indicates, wavelet processing is used in music analysis and synthesis. During such processing, *Faria* is even concerned with perceptual factors (pages 951, 952 and 959), parameters (pages 953 and 959) and a wavelet transform (page 955). Notwithstanding such teachings in *Faria*, the wavelet synthesis in this publication is performed on the wavelet itself, and not on a selected wavelet type after a comparison operation (claims 1 and 12) or on a representation of the wavelet (claims 1, 12 and 17). Thus, the obviousness rejection of claims 1 through 3, 8 through 13, 17, 19, 20, 27 and 29 is reversed because *Faria* neither teaches nor would have suggested to one of ordinary skill in the art the method steps outlined in these claims. The obviousness rejections of claims 6, 16, 22

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through 24, 28 and 30 through 34 are likewise reversed because the teachings of Evangelista and Kudumakis do not cure the noted shortcomings in the teachings of Faria.

DECISION

The decision of the examiner rejecting claims 1 through 3, 6, 8 through 13, 16, 17, 19, 20, 22 through 24 and 27 through 34 under 35 U.S.C. § 103(a) is reversed.

REVERSED

KENNETH W. HAIRSTON)	
Administrative Patent Judge)	
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)	BOARD OF PATENT
JOSEPH L. DIXON)	APPEALS AND
Administrative Patent Judge)	INTERFERENCES
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)	
STUART S. LEVY)	
Administrative Patent Judge)	

KWH:svt

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